

Appl. No. 10/028,245
Amdt. dated March 21, 2005
Reply to Office action of October 19, 2004

Page 4

IN THE CLAIMS:

The claims as currently presented and under consideration, are presented below for the Examiner's convenience and to comply with 37 CFR §1.121. This listing of claims will replace all prior versions, and listings, of claims in the application:

1. [Cancelled]
2. **[Currently Amended]** An isolated polynucleotide encoding a fungal glycosyl hydrolase Family 5 endoglucanase enzyme having endoglucanase activity selected from the group consisting of:
 - (a) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an EGVIII polypeptide having at least 985% sequence identity to the amino acid sequence presented in SEQ ID NOs:3 and 2 as shown in Figure 25;
 - (b) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an EGVIII polypeptide having at least 90% sequence identity to the amino acid sequence presented in SEQ ID NOs:3 and 2 as shown in Figure 25;
 - (c) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an EGVIII polypeptide having at least 95% sequence identity to the amino acid sequence presented in SEQ ID NOs:3 and 2 as shown in Figure 25;
 - (d) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an EGVIII polypeptide having the amino acid sequence presented in SEQ ID NOs:3 and 2 as shown in Figure 25;
 - (e) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an EGVIII polypeptide having at least 95% sequence identity to the amino acid sequence presented as SEQ ID NO:2;
 - (f) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an EGVIII polypeptide having the amino acid sequence presented as SEQ ID NO:2; and
 - (g) a nucleic acid sequence presented as SEQ ID NO:4, or the complement

Appl. No. 10/028,245
Amdt. dated March 21, 2005
Reply to Office action of October 19, 2004

Page 5

thereof;

wherein % identity is calculated using the CLUSTAL-W program in MacVector version 6.5, operated with default parameters, including an open gap penalty of 10.0, an extended gap penalty of 0.1, and a BLOSUM 30 similarity matrix.

3. [Cancelled]
4. [Currently Amended] An isolated polynucleotide that hybridizes, under high stringency conditions to the sequence presented as SEQ ID NO:4, or the complement or a fragment thereof, wherein said isolated polynucleotide encodes a polypeptide having the biological activity of an endoglucanase, wherein hybridization is conducted at 42°C in 50% formamide, 6X SSC, 5X Denhardt's solution, 0.5% SDS and 100 µg/ml denatured carrier DNA followed by washing two times in 2X SSPE and 0.5% SDS at room temperature and two additional times in 0.1 SSPE and 0.5% SDS at 42°C.
5. [Original] The isolated polynucleotide of Claim 2, wherein said polynucleotide is an RNA molecule.
6. [Currently Amended] The isolated polynucleotide of claim 24 encoding an enzyme having endoglucanase activity, wherein the enzyme is isolated from a *Trichoderma* source.
7. [Previously Amended] The isolated polynucleotide of Claim 6, wherein the enzyme is isolated from *Trichoderma reesei*.
8. [Currently Amended] An expression construct comprising a polynucleotide sequence encoding an amino acid sequence having endoglucanase activity and (i) having at least 85% sequence identity to the amino acid sequence presented in SEQ ID NO:2, or (ii) being capable of hybridizing to a probe designed to hybridize with the nucleotide sequence disclosed in SEQ ID NO:1 under conditions of intermediate to high stringency, or (iii) being complementary to a nucleotide sequence having at least 85% sequence identity to a nucleotide sequence encoding the amino acid sequence presented in SEQ ID NO:2.
9. [Previously Amended] A vector comprising the expression construct of Claim 8.
10. [Original] A vector comprising an isolated polynucleotide of Claim 2, operably linked to control sequences recognized by a host cell transformed with the vector.

Appl. No. 10/028,245
Amdt. dated March 21, 2005
Reply to Office action of October 19, 2004

Page 6

11. [Original] A host cell transformed with the vector of Claim 9.
12. [Original] A host cell transformed with the vector of Claim 10.
13. [Original] The host cell of Claim 12, which is a prokaryotic cell.
14. [Original] The host cell of Claim 12, which is a eukaryotic cell.
15. [Original] A recombinant host cell comprising a polynucleotide of Claim 2.
16. [Original] The recombinant host cell of Claim 15, which is a prokaryotic cell.
17. [Original] The recombinant host cell of Claim 15, which is a eukaryotic cell.
18. [Cancelled]
19. [Original] A method of producing an enzyme having endoglucanase activity, comprising:
 - (a) stably transforming a host cell with an expression vector comprising a polynucleotide as defined in Claim 2;
 - (b) cultivating said transformed host cell under condition suitable for said host cell to produce said endoglucanase; and
 - (c) recovering said endoglucanase.
20. [Original] The method of Claim 19 wherein the host cell is a filamentous fungi or yeast cell.
21. [Cancelled]
22. [Currently Amended] A recombinant host cell comprising a deletion or insertion or other alteration in the eg/8 gene encoding the polypeptide presented in SEQ ID NO:2 which inactivates the gene and prevents EGVIII polypeptide production.
23. [Previously Amended] An antisense oligonucleotide complementary to a messenger RNA that encodes an EGVIII polypeptide having the sequence presented as SEQ ID NO:2, wherein upon exposure to a endoglucanase-producing host cell, said oligonucleotide inhibits the production of endoglucanase by said host cell.
24. [Original] The antisense oligonucleotide of Claim 23, wherein the host cell is a filamentous fungi.
25. [Cancelled]
26. [Currently Amended] A method of expressing a heterologous polypeptide having endoglucanase activity in an *Aspergillus* species, comprising:

Appl. No. 10/028,245
Amdt. dated March 21, 2005
Reply to Office action of October 19, 2004

Page 7

(a) Providing a host *Aspergillus* with an expression vector comprising a polynucleotide encoding a signal sequence linked to a polynucleotide encoding a heterologous fungal endoglucanase EG VIII according to Claim 2, thereby encoding a chimeric polypeptide;

(b) Cultivating said host *Aspergillus* under conditions suitable for said *Aspergillus* to produce said chimeric polypeptide, wherein said chimeric polypeptide is produced.

27 – 36. [Cancelled]